

REMARKS

On entering this amendment, claims 17-43 are all the claims pending in this application.

Claim 21 is rejected under 35 U.S.C. § 102(b) as being anticipated by Schmitt et al. (US 5,889,874).

Claims 17, 19, 20 and 26 are rejected under 35 U.S.C. § 102(b) as being anticipated by Voroba et al. (US 4,870,688).

Claims 17 and 22-25 are rejected under 35 U.S.C. § 102(e) as being anticipated by Olsen (US 6,430,296).

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Juneau et al. (US 6,228,020).

Claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Nassler (US 4,879,750).

Claims 27 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Yoest (US 5,970,157).

Claims 27 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Berger (US 6,164,409).

Claims 31-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Yoest (6,167,141).

Claims 36-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Gore et al. (US 4,620,605).

Claim 41 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Voroba as applied to claim 17, and further in view of Widmer et al. (US 6,540,045).

Claims 39 and 40 are objected to as being dependent upon a rejected base claim.

The Applicants traverse the rejections and request reconsideration.

Claim Amendments and new claims

The Applicants amends pending claims to enhance clarity and consistency. Further, claim 39 has merely been amended to place it in independent form, including all limitations of former base claims. Claim 40, by its dependency on claim 39, inherits all of these limitations. This should bring claims 39 and 40 into allowable form.

Amended claim 17 includes limitations analogous to claim 1.

Amended claim 21 includes limitations analogous to claim 1 and on the description, p. 5, l. 12-15, and p. 17, l. 6-12.

New claim 42 is based on a facultative portion of original claim 37.

New claim 43 is based on original claim 16.

Amendments to the Specification

The specification has been amended to rectify some errors. No new matter has been added.

Drawings objections

The examiner has objected to a number of drawings for inconsistencies vis-à-vis the description. The drawings objections are addressed by a combination of amendments to the drawings and the specifications, as explained hereunder.

Concerning reference "88" in Fig. 19: Fig. 19 has been amended.

Concerning reference "88" in Figs. 19, 23 and 24: Fig. 19 has been amended.

Concerning reference "72" in Fig.'s 19 and 21 (Should have been Fig. 20):

Fig. 20 has been amended.

Concerning certain references appearing in the Figs. but not mentioned in the description:

Reference "26", shown in Figs. 2, 8 and 10 has been added to the description.

In Fig. 11, "34a" has been deleted.

In Fig. 13, "56" has been deleted.

In Figs. 14 and 15, "54a" has been deleted and "55" has been changed into "30".

In Fig. 19, "72", "88" and "89" have been changed into "92", "97" and "98", respectively.

In Fig. 20, "72" and "72'" have been changed into "2" and "2'", respectively.

In Fig. 23, "75" has been deleted.

Further, in Fig. 35, reference "98" has been changed into "108". A similar change has been entered into the related section of the description.

Claim rejections under 35 USC § 102

Rejection of claim 21 based on Schmitt

The examiner has cited Schmitt et al., U.S. Patent No. 5,889,874, holding this reference to anticipate claim 21.

Schmitt et al. shows an “in the ear” hearing aid with a housing composed of a customized shell and a face plate attached to a shell, with hearing aid components disposed inside said housing. The faceplate has an internal surface facing the shell, with components mounted on the internal surface.

Claim 21 as now amended distinguishes this reference notably through the recitation of the hearing aid housing, i.e. the shell as well as the faceplate, being manufactured according to a digital model of the users auditory canal. Schmitt et al. does not manufacture a hearing aid according to a digital model. Schmitt et al. does not manufacture a faceplate according to a users auditory canal. Rather Schmitt et al. teaches a prefabricated faceplate that can then be put in place onto the housing shell.

Rejection of claims 17, 19, 20 and 26 based on Varoba

The examiner has rejected claims 17, 19, 20 and 26 as being anticipated by Voroba et al., US patent No. 4,870,688. Specifically, the examiner cites Voroba et al. for showing a hearing aid for insertion into the auditory canal, comprising a hearing aid housing with a face plate comprising positioning means for engaging with corresponding positioning means of the shell so

that the circumference of the face plate matches the junction contour of the shell when the face plate positioning means engages with the shell positioning means.

Voroba et al. discloses a hearing aid for insertion in the auditory canal, which is prefabricated from modular elements which are mass produced prior to fitting the user with a hearing aid. It includes a pre-assembled amplification module including a cover module. It further includes prefabricated earshell assembly comprising a precast and preshaped hollow thin shelled rigid core. In addition, it has a premolded soft, resilient, malleable covering fixed to the exterior of said rigid core. Means for detachably connecting the amplification module to the prefabricated earshell assembly are provided.

The means for detachable connection comprise a cover module with bayonet tabs for detachably interconnecting the cover module with a flange that is part of a shell assembly. The prefabricated earshell assembly is patient selectable. Voroba et al. provides vent channels between a core and a covering of the shell assembly.

Claim 17, as now amended, distinguishes Voroba et al. notably through the recitation of the shell being matched to the auditory canal of a user, the shell being manufactured according to a digital model of the user's auditory canal, and the faceplate being manufactured according to a digital model so as to match the junction contour. Voroba does not customize the shell to the user's auditory canal. Neither does Voroba manufacture a faceplate according to a user's auditory canal.

Claims 19, 20 and 26, through their respective dependencies include the limitations of claim 17 and thereby also distinguish Voroba et al.

Rejection of claims 17 and 22-25 based on Olsen

The examiner has cited Olsen, US patent No. 6,430,296, alleging this reference to anticipate claims 17 and 22-25. According to the Office Action, the Examiner finds Olsen to disclose a hearing aid for insertion in the auditory canal, comprising a hearing aid housing with a face plate comprising positioning means for engaging with corresponding positioning means of the shell so that the circumference of the face plate matches the junction contour of the shell when the face plate positioning means engages with the shell positioning means. The Examiner has further referred to Olsen for the teaching of an electronic module and various details of an engagement structure.

Olsen discloses a modular hearing aid for arrangement in a user's ear, comprising a hollow plug adapted to the ear canal and having an outward opening, an electronic module positioned in the plug, and a faceplate covering said opening and having a recess defined therein. The recess comprises an opening for insertion of a socket part of the electronic module, while further parts of said electronic module are placed below the faceplate. At an edge of the recess, the faceplate is provided with an integral engagement structure for the socket part. Olsen provides the faceplate as a standard component, glued over the outward opening of the plug. After gluing, the contour of the faceplate is then formed by cutting or milling according to the contour of the edge of the orifice of the plug. The engagement structure mentioned by Olsen is adapted for engaging the electronic module.

Claim 17 as now amended distinguishes Olsen notably through the recitation of the shell being manufactured according to a digital model of the users auditory canal so as to have a shell junction contour, first component engagement means and shell positioning means, the face plate being manufactured according to the digital model so as to have a circumference matching the junction contour, face plate positioning means, and second engagement means, the face plate positioning means being adapted for engaging with the shell positioning means. Olsen manufactures neither the shell nor the faceplate according to a digital model. Olsen does not show any means for defining the mutual positioning between the shell and the faceplate.

Claim rejections under 35 USC §103

Rejection of claim 18 based on Varoba/Juneau

In relation to claim 18, the examiner has referred to Voroba et al. in combination with Juneau et al., US patent 6,228,020, citing Juneau to allegedly show the trimming of the face plate to match the junction contour of the shell when the pieces are placed in their proper orientation.

Claim 18, through its dependency, inherits all limitations of claim 17, and therefore patentably distinguishes the combination of these references.

Rejection of claim 28 based in Varoba/Nassler

In relation to claim 28, the examiner has referred to Voroba et al. in combination with Nassler, U.S. Patent No. 4,879,750, citing Nassler for showing that the shell has a shell ventilation channel opening that is adapted to receive and hold an ear wax guard.

Claim 28, through its dependency, inherits all limitations of claim 17, and therefore patentably distinguishes the combination of these references.

Rejection of claims 27 and 29 based on Varoba/Yoest ('157)

In relation to claims 27 and 29, the examiner has referred to Voroba et al. in combination with Yoest, U.S. Patent No. 5,970,157, citing Yoest to show an acoustic output opening that is adapted to receive and hold an ear wax guard as further detailed in these claims.

Claims 27 and 29, through their respective dependencies, inherit all limitations of claim 17, and therefore patentably distinguish the combination of these references.

Rejection of claims 27 and 30 based on Varoba/Berger

In relation to claims 27 and 30, the examiner has further referred to Voroba et al. in combination with Berger, U.S. Patent No. 6,164,409, citing Berger to show an acoustic output opening that is adapted to receive and hold an ear wax guard as further detailed in these claims.

Claims 27 and 30, through their respective dependencies, inherit all limitations of claim 17, and therefore patentably distinguish the combination of these references.

Rejection of claims 31-35 based on Varoba/Yoest ('141)

In relation to claim 32, the examiner has referred to Voroba et al. in combination with Yoest, U.S. Patent No. 6,167,141, citing Yoest (i.e. the '141 publication) for showing that the tightening protrusion may be formed from any compliant material.

The pertinent section in the '141 publication, has a mentioning of "a flowable, curable, compliant material, such as silicone".

In relation to claims 33-35, the examiner has referred to Voroba et al. in combination with the '141 publication, citing the '141 publication for a showing of a groove as detailed in those claims.

Claims 31-35, through their respective dependencies, inherit all limitations of claim 17, and therefore patentably distinguish the combination of these references.

Rejection of claims 36-38 based on Varoba/Gore

In relation to claims 36-38, the examiner has referred to Voroba et al. in combination with Gore, U.S. Patent No. 4,620,605, citing Gore for a showing of a shell produced with means for vibration absorbing suspension of the receiver. In relation to claims 37 and 38, the examiner refers to Gore for a showing of a chamber for receiving and holding the receiver, and a resilient band fixed around the receiver and the resilient band has a protrusion for supporting and suspending the receiver in the chamber.

Claims 36-38, through their respective dependencies, inherit all limitations of claim 17, and therefore patentably distinguish the combination of these references.

Rejection of claim 41 based on Varoba/Widener

In relation to claim 41, the examiner has referred to Voroba et al. in combination with Widmer, U.S. Patent No. 5,970,157, citing Widmer for a showing of an inherent identification of the hearing aid housing.

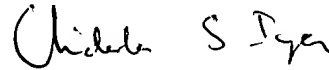
Claim 41, through its dependency, inherits all limitations of claim 17, and therefore patentably distinguishes the combination of these references.

CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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WASHINGTON OFFICE

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CUSTOMER NUMBER

Date: February 24, 2004

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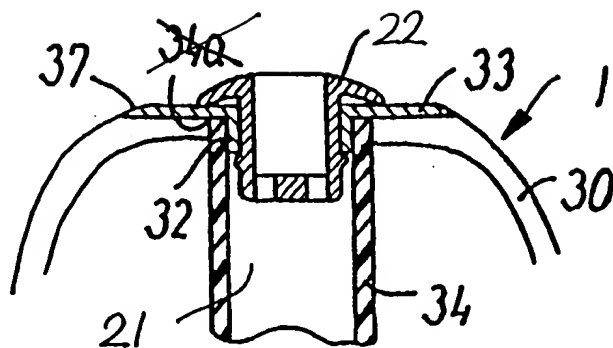


Fig. 11

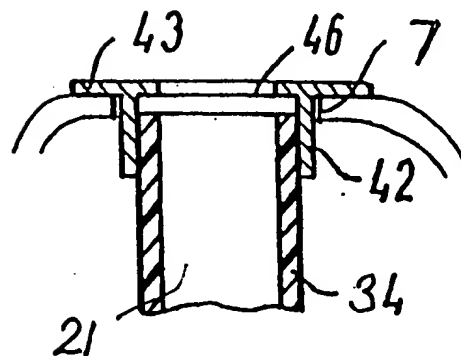


Fig. 12

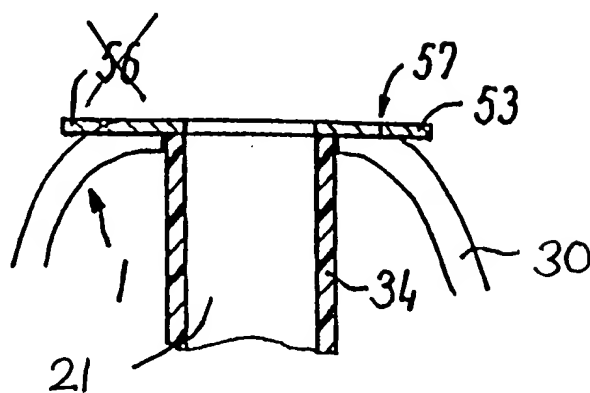


Fig. 13

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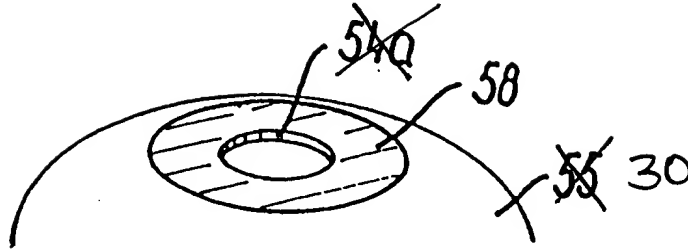


Fig. 14

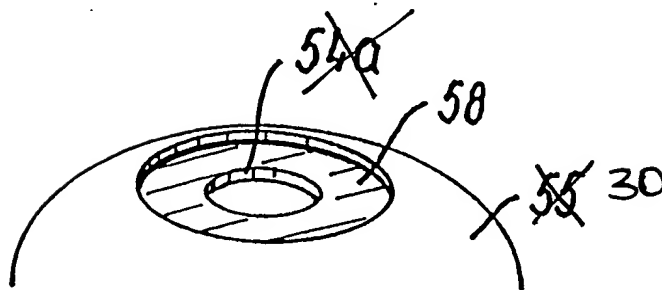


Fig. 15

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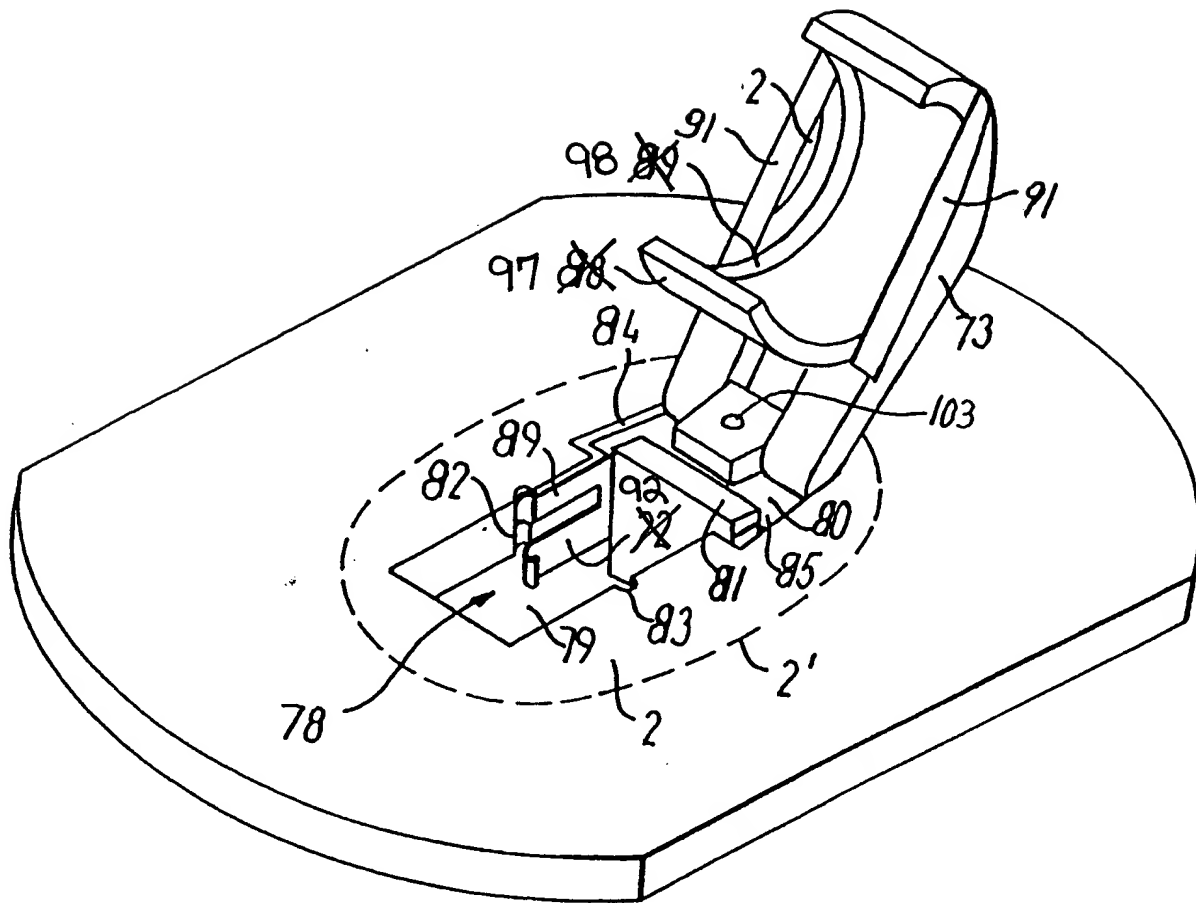


Fig. 19

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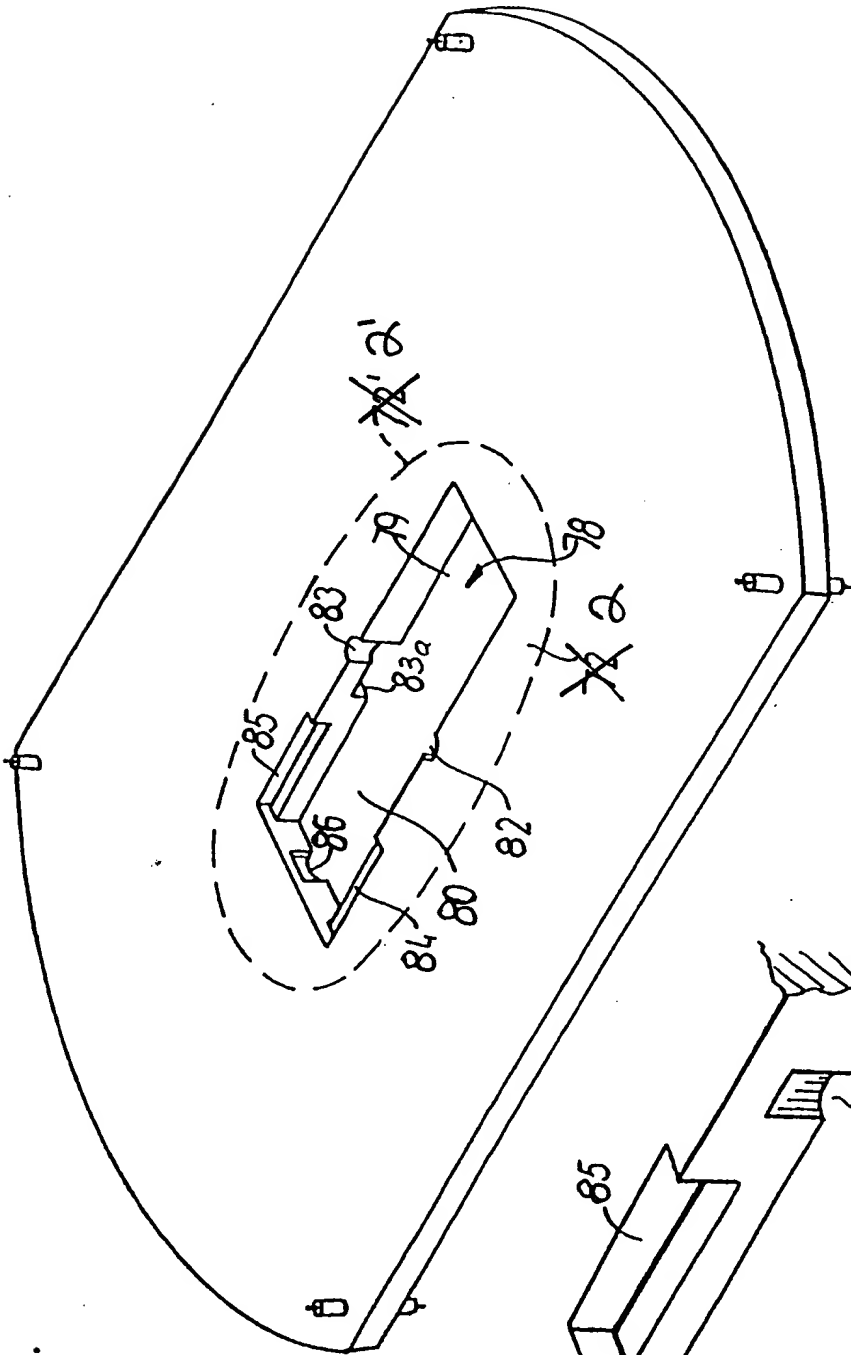


Fig. 20

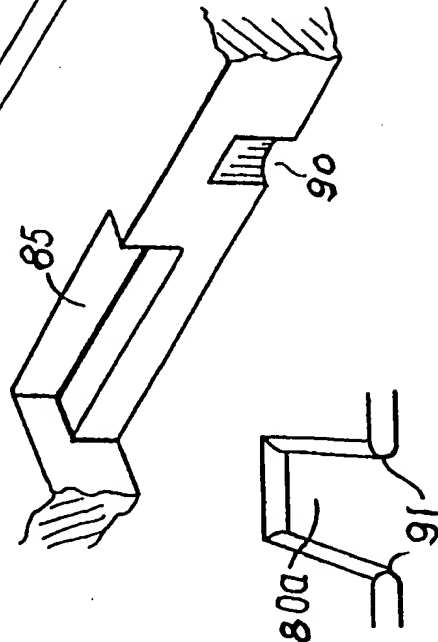


Fig. 21

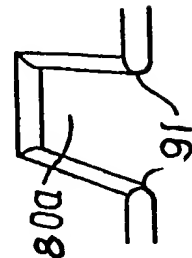


Fig. 22



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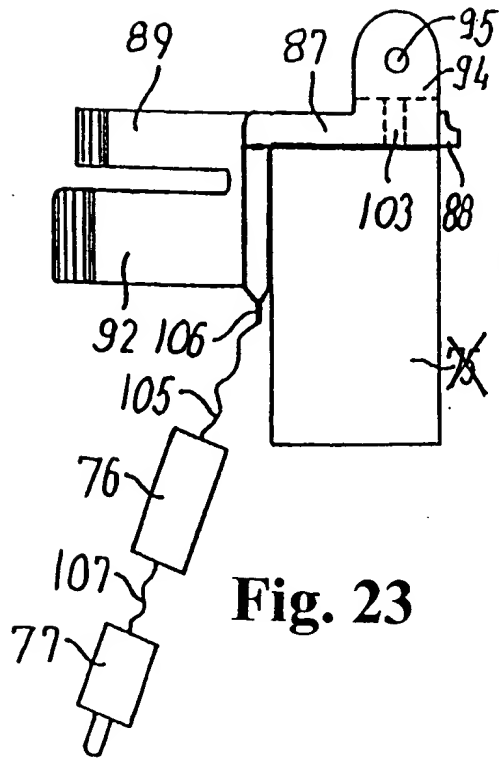


Fig. 23

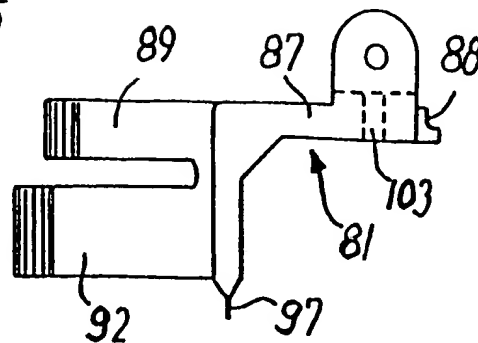


Fig. 24

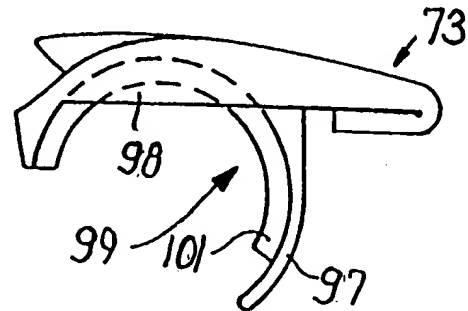


Fig. 25

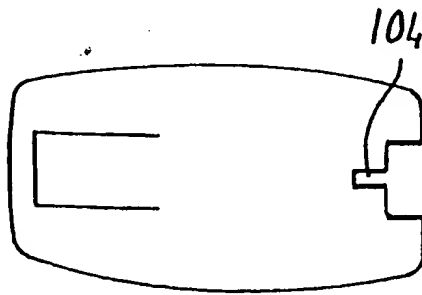


Fig. 26

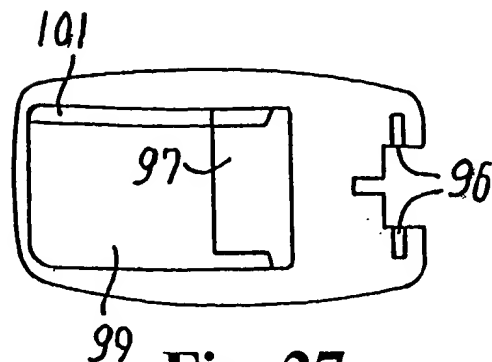


Fig. 27

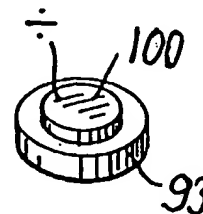


Fig. 28

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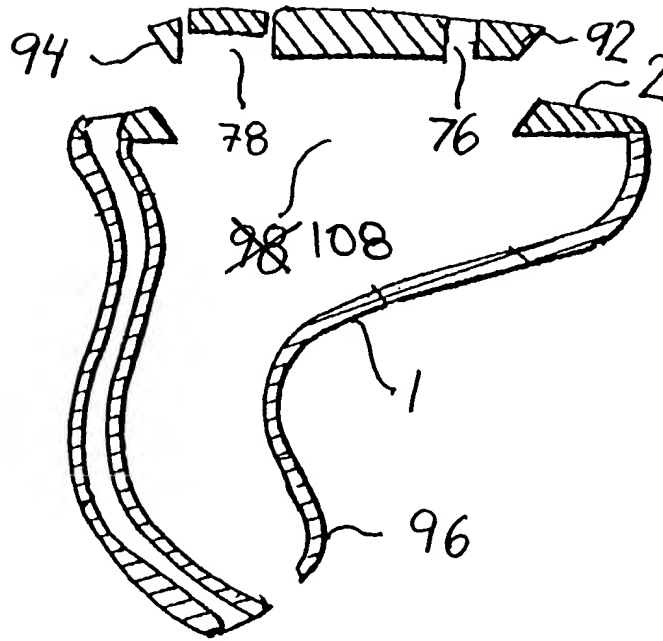


Fig. 35

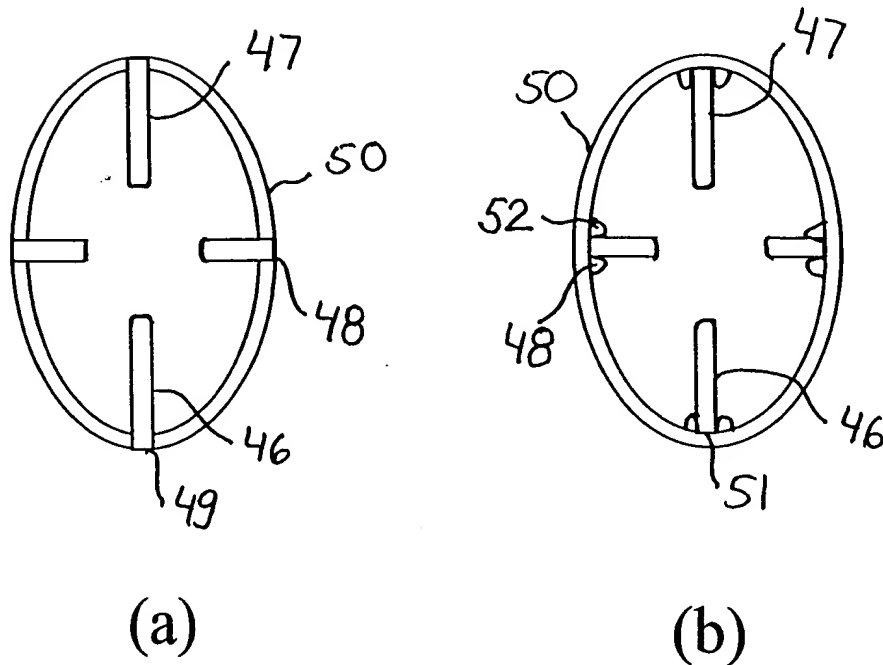


Fig. 36